

The Weekly

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CIRM awards Keck School \$2.9 million for stem cell research

Funding basic research is a good economic investment—each dollar invested by the NIH stimulates \$2.50 in associated economic activity.

By Meghan Lewit

Researchers at the Keck School of Medicine have been awarded \$2.9 million in grants from the California Institute for Regenerative Medicine (CIRM) to support stem cell research that may lay the foundation for future therapies.

The Basic Biology Awards received formal approval on Aug. 20 from the Independent Citizens Oversight Committee, the 29-member governing board of the institute.

The state's stem cell agency awarded a total \$16 million to researchers at five institutions in the first annual round of funding for Basic Biology Awards.

The grants are intended to lead to advances in understanding the basic mechanisms underlying stem cell biology, cellular plasticity and cellular differentiation.

Keck School of Medicine faculty members Martin Pera, director of the Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC, and Wange Lu, assistant professor of biochemistry and molecular biology, were among the 12 award recipients.

Pera's grant of more than \$1.4 million will fund studies of key processes involved with stem cell renewal.

Lu's grant of more than \$1.4 million will look into the molecular mechanisms

of induced pluripotent stem (iPS) cells—cells that can be programmed to become any kind of tissue in the body.

"The research will provide new insights into how embryonic stem cells multiply in the laboratory and how they take the first steps into becoming specialized tissues," said Pera. "The scientists will also learn more about the reverse of this process, specifically how cells from adult tissues can undergo conversion to a state resembling early embryonic cells. These findings will help in large scale production of various specialized cells for use in research or the treatment of disease."

Lu said, "Our research ultimately will allow us to

improve methods to create patient-specific iPS cells for individualized cell replacement therapy, and disease-specific iPS cells, which will help in research of the cause of diseases and screening for drugs to treat those diseases."

Alan Trounson, CIRM president, said these grants to fund basic biology will maintain the flow of new ideas entering the research pipeline.

"These basic biology grants will generate new ideas for future therapies and also provide information to help overcome barriers in bringing therapies to patients," he said.

Funding basic research is also a good economic investment, according to Trounson. Former acting NIH director Raynard Kington estimated that each dollar invested by the NIH stimulates \$2.50 in associated economic activity.

CIRM was established when voters passed Proposition 71 in 2004 to borrow and spend \$3 billion over 10 years to support stem cell research.

To date, USC faculty members working at the USC Health Sciences Campus and its affiliate Childrens Hospital Los Angeles have secured more than \$60 million in funding.

USC is also part of the Southern California Stem Cell Scientific Collaboration (SC3), which is an agreement among six research institutions in Southern California allowing members to share training programs, scientific core facilities and expertise, and to team up on a wide range of research programs.

For more information on USC's stem cell programs, please visit <http://stemcell.usc.edu>.



A NEW BEGINNING—Hundreds of USC students celebrated their formal entry into the health professions in multiple white coat ceremonies on campus in recent weeks. Right, Rebecca Klevens accepts the white coat from her father, alumnus Buzzy Klevens, at the USC School of Pharmacy's ceremony on Aug. 20. Above, physical therapy students take the Oath of the Physical Therapist during the Aug. 27 ceremony at the Harry and Celesta Pappas Quad.



Bob Knight Photography

American Dental Assn. honors dentistry professor Harold Slavkin for excellence in research

By Beth Dunham

The American Dental Association has named Harold Slavkin, professor and former dean of the USC School of Dentistry, winner of the 2009 Gold Medal Award for Excellence in Research.

The award celebrates a researcher whose basic science or clinical research efforts have significantly improved the dental profession and/or the oral health of the community. Given every three years, the winner receives an inscribed gold medallion and a three-year position with the American Dental Association Council

for Scientific Affairs, a standing committee that provides input on scientific matters for the organization.

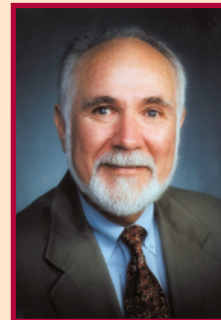
"During his nearly five decades in science and dentistry, Dr. Slavkin has worked tirelessly to advance all aspects of the dental field," said Avishai Sadan, dean of the USC School of Dentistry. "Beyond the volumes of influential research that he has published, he has used his many leadership roles to advance oral health research, improve dental education and advocate for oral health care access for all populations."

Slavkin said that he was deeply

honored by the recognition, which came at the behest of more than 100 letters of nomination and support that colleagues from USC, the National Institute for Dental and Craniofacial Research and elsewhere submitted to the association.

"Whenever a group of people that you respect decide that they want to recognize your accomplishments, it's very touching," Slavkin said.

Yang Chai, director of the USC



Harold Slavkin

School of Dentistry Center for Craniofacial Molecular Biology, said Slavkin's zeal for the advancement of science is "infectious."

"The most exciting aspect about Hal Slavkin is that he is so passionate about science," Chai said. "Dr. Slavkin created the Center for Craniofacial Molecular Biology, and his vision and passion for science have inspired many of us who continue to build upon his legacy to bring our scientific research to the next level of excellence."

Global health forum focuses on fighting epidemics

By Jessica Ogilvie

Featuring a keynote address by Keck School of Medicine public health expert Jonathan M. Samet, the Institute for Genetic Medicine (IGM) Art Gallery hosted a day-long forum on Aug. 22 to help educate the local health care community about international health issues.

Dozens of community members and health care professionals attended the event on “Mobilizing and Engaging Communities for Global Health” to discuss ending global epidemics.

Samet, an epidemiologist, founding director of the new USC Institute for Global Health and chair of the Department of Preventive Medicine at the Keck School, kicked off the event with a discussion of the word “epidemic,” which he said is generally understood to be something that “affects more people than it should.” As such, current epidemics include not just viruses like H1N1, SARS and HIV/AIDS, but also man-made diseases such as obesity and tobacco.

Modern epidemics are far more difficult to contain than they have been in the past, Samet explained. Because of the interconnectedness of our world, a virus can spread across the globe incredibly quickly, as was the case with severe acute respiratory syndrome (SARS).

The spread of SARS is believed to have started in an international hotel in Hong Kong, and from there it traveled—incubating in human bodies—to the rest of the world. In order to understand the

nature of a modern epidemic, said Samet, leaders and experts in the field must use instances like SARS and examine them primarily from a global standpoint, but also take into account the “upstream and downstream” ways in which they spread—from global to local to a family home, and back again.

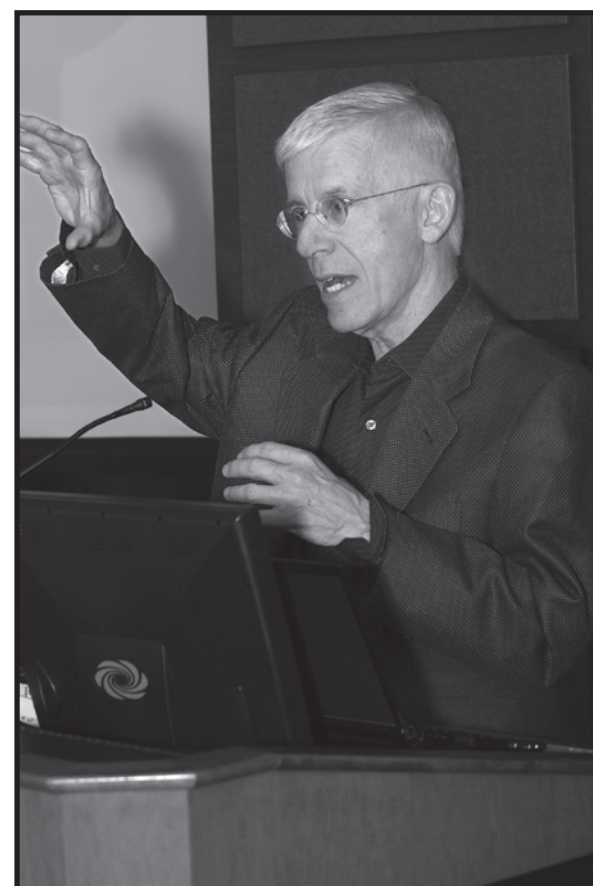
In attempting to stem the spread of epidemics, it is vital that global health leaders and active members of the community focus on finding the links between the disease and the epidemic, he said.

For this, experts turn to the epidemiologic triangle. The triangle demonstrates the way in which a vector transports the cause of the disease through an agent to a host, and the ways in which environmental factors play a part in ensuring this transmission.

Using the example of tobacco, the tobacco industry is the vector, and the diseases are transmitted through a cigarette (agent) to a smoker (host).

Environmental factors that might ensure transmission include marketing campaigns, age, peer influence and familial influence.

Samet demonstrated how the triangle works with HIV/AIDS and obesity as well. The event was co-sponsored by Americans for Informed Democracy, the IGM Art Gallery, the Raoul Wallenberg Institute for



Jonathan Samet, chair of the Department of Preventive Medicine at the Keck School, discusses the importance of exploring the links between diseases and epidemics during his Aug. 22 keynote address.

©Brook Photography

Modern epidemics are far more difficult to contain than they have been in the past because of the interconnectedness of our world.

Ethics, and EMERGENCY USA.

Established nearly 30 years ago, the IGM Art Gallery implements a range of community programs including art exhibits and forums on complex social issues that interface with molecular biology and health.

Study shows increasing risk of diabetes in some Hispanic youths

By Leslie Ridgeway

A study by researchers at the Keck School of Medicine found that obese Hispanic teenagers with persistent metabolic syndrome had progressively increasing risk of developing type 2 diabetes over time.

The research is the first to show that obese Hispanic youth with persistent metabolic syndrome—a combination of symptoms including insulin resistance and excess fat around the waist—are subject to such an increasing risk over time. The study has been published in the *Journal of Pediatrics*.

A research team led by Michael I. Goran, professor

of preventive medicine and physiology and biophysics and director of the Childhood Obesity Research Center at the Keck School of Medicine, studied a cohort of 73 overweight Hispanic children over a period of three years.

Patients who tested positive for metabolic syndrome over three annual visits were classified “persistent” for metabolic syndrome.

These patients gained body fat more quickly and had increased insulin resistance and a worsening of pancreatic beta cell function, which means they were unable to process insulin appropriately.

“This study shows that, for Hispanics, having metabolic

syndrome in childhood is a good predictor of increasing risk for type 2 diabetes,” said Goran.

“Yearly testing of Hispanic youth for metabolic syndrome—an inexpensive test—can help physicians determine if their young patients are heading toward type 2 diabetes in the future,” he added.

Previous studies did not include evaluations of insulin resistance and beta cell function, or assessed patients over a two-year period. In the new study, subjects were classified as negative for metabolic syndrome, intermittent (positive at one or two visits) or persistent (positive at all three visits).

Those in the persistent group—14 subjects—showed a steady increase in insulin resistance with each visit.

The persistent group maintained 43 percent lower insulin resistance and by the second visit, had a 25 percent lower beta cell function when compared to those who were negative for metabolic syndrome.

Ventura EE, Lane CJ, Weigensberg MJ, Toledo-Corral CM, Davis JN, Goran MI. Persistence of the metabolic syndrome over 3 annual visits in overweight Latino children: Association with progressive risk for type 2 diabetes. Journal of Pediatrics 2009 Jun 23.

USC football coach knows score on kids’ health

Would you like Pete Carroll as your kid’s personal health trainer? If so, you’re in luck; there’s a new Web site that provides one-on-one coaching straight from the Trojan football coach.

CampPete.com, designed by Play Action Online, is an online sports world for kids created by Coach Carroll to teach health, safety and football skills to kids as young as age 5. In addition, players can earn points within the game for exercises and activities they perform in real life. Registration and play are free, and as of early August more than 10,000 users had signed up to learn Coach Carroll’s secrets of success. MVP membership is also available, with a portion of the proceeds going to Pete Carroll’s foundation A Better L.A.

For more details, visit the game Web site at www.CampPete.com.



Coach Pete Carroll appears on his namesake site, encouraging kids to adopt healthful habits.

The Weekly

Next Issue: Sept. 18

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USC-led study links parental stress, air pollution, children’s asthma risk

By Meghan Lewit
Children with stressed out parents may be more susceptible to developing asthma associated with environmental triggers such as high levels of traffic-related pollution and tobacco smoke, according to a new study led by researchers at the Keck School of Medicine.
According to the study that appeared in July in the Online Early Edition of the *Proceedings of the National Academy of Sciences*, the risk of asthma associated with traffic-related pollution was significantly higher for children of parents reporting high levels of stress.
Stress, as well as low parental education, was also associated with larger effects of exposure to tobacco smoke during pregnancy.
“We found that it was children exposed to the combination of air pollution and life in a stressful environment who were at highest risk of developing asthma,” said principal investigator Rob McConnell, professor of preventive medicine at the Keck School of Medicine and deputy director of the Children’s Environmental Health Center at USC.
Asthma is the most common chronic childhood illness in developed countries and has been linked to environmental

factors. The study drew upon data from the USC Children’s Health Study, a longitudinal study of respiratory health among children in 13 southern California communities.
Researchers followed 2,497 children with no history of respiratory problems over three years, tracking whether they developed asthma starting in kindergarten or first grade.
They also measured parental stress and parental education—as an indicator of socioeconomic status—using a questionnaire, and collected information on exposure to traffic-related pollution and whether the children had been exposed to tobacco smoke in utero.
The results showed that parental stress alone did not increase the risk that children would develop asthma. However, when children had a combination of parents with stressful lives and also lived near high levels of traffic-related pollution, their risk of asthma increased compared with children only exposed to pollution.
“Air pollution can promote inflammatory responses in the airways of the lung, which is a central feature of asthma,” McConnell said. “Stress may also have pro-inflammatory effects and this may help explain why the two exposures together

were important.”
Children whose parents perceived their lives as unpredictable, uncontrollable or overwhelming were susceptible to the effects of pollution, the authors noted. Stress associated with poverty may help explain why asthma rates are often higher in lower socioeconomic status communities.
“Childhood asthma is a complex disease that probably has many contributing causes,” McConnell said. “Further study of effects of exposure to air pollution in combination with stressful environments associated with poverty and other social factors could contribute to our understanding of why the disease develops.”
The study was supported by the National Institute of Environmental Health Sciences, the U.S. Environmental Protection Agency, the National Cancer Institute, the Hastings Foundation and the Canadian Institutes of Health Research.

K. Shankardass, Rob McConnell, M. Jerrett, J. Milam, J. Richardson, and K. Berhane. “Parental stress increases the effect of traffic-related air pollution on childhood asthma incidence.” Proceedings of the National Academy of Sciences. www.pnas.org/cgi/doi/10.1073/pnas.0812910106.

“Children exposed to the combination of air pollution and life in a stressful environment... were at highest risk of developing asthma.”

— Rob McConnell, professor of preventive medicine at the Keck School of Medicine

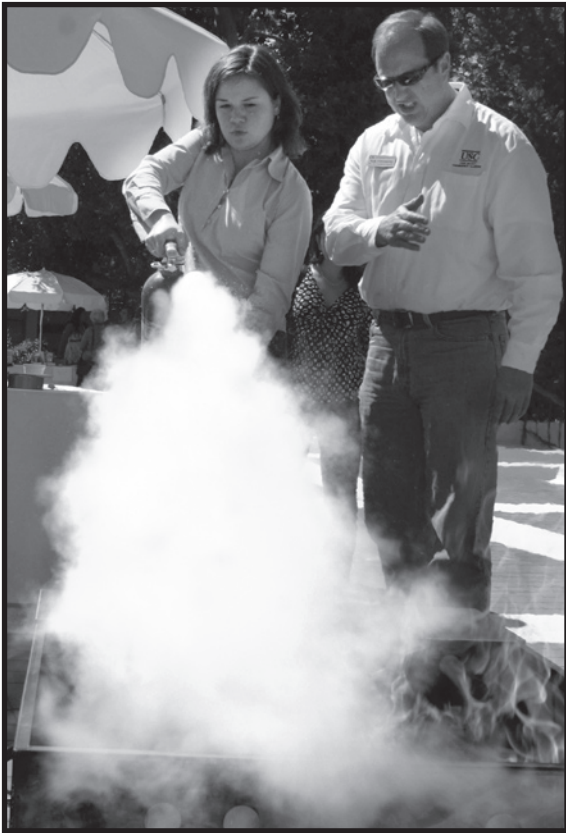
University slates two emergency preparedness fairs for September

Are you prepared for an earthquake or fire in your office or home? Specifically, do you know how to use a fire extinguisher? Have fully stocked disaster survival kits where you work and sleep? Know exactly what your first reactions should be?
The university wants to make sure that all faculty, staff and students know what to do in an emergency.
To that end, the USC Office of Fire Safety/ Emergency Planning is holding two campus safety awareness fairs—one on each campus—in September.
The University Park fair will be on Wednesday, Sept. 16, on Trousdale Parkway from 10 a.m. to 2 p.m. The

Health Sciences fair will be on Wednesday, Sept. 30, in the upper and lower quad during the same hours. Each fair will have emergency supply vendors selling disaster survival kits, first aid kits, fire extinguishers, smoke detectors, disaster food and water, flashlights, earthquake safety devices and other items at discounted prices for Trojans.
In addition, there will be hands-on demonstrations on fire extinguisher usage, an earthquake simulator (on the Health Sciences Campus only) and displays on home fire prevention, hazardous materials emergencies, laboratory safety, preventing sexual assault, identity theft, alcohol abuse and more.

The fairs are part of the effort to increase earthquake awareness prior to the annual Great ShakeOut Drill, which this year will be held at 10:15 a.m. on Oct. 15. On that day, everyone on both campuses is urged to “drop, cover and hold on” as if they were experiencing a magnitude 7.8 earthquake.
On the same day, the Health Sciences Campus will undergo a mass casualty drill, with simulated destruction, victims and a triage center, much like the mass drill orchestrated on the University Park campus during the Great ShakeOut in 2008.
Faculty and staff members on the Health Sciences Campus are needed to participate in the first aid and triage

portions of the drill as members of the campus disaster first aid team. No prior medical experience is required, but volunteers must attend a first aid and triage workshop before the drill. Workshops are being held from 2–5 p.m. in USC University Hospital on Sept. 8, 14, 17 and 18. To register, contact Steve Goldfarb of USC Fire Safety and Emergency Planning at sgoldfarb@caps.usc.edu.
For updated information on the Great ShakeOut Drill and what you should do in an emergency, visit the university’s newly redesigned Campus Safety and Emergency Preparedness Web site at <http://emergencyprep.usc.edu>.



In a file photo of the HSC’s 2007 emergency preparedness fair, occupational therapy student Liz Goodwin blasts a fire with an extinguisher under the guidance of fire/emergency safety specialist Rob Forsberg.

The Weekly NEWSMAKERS

A Sept. 1 HealthDay News article featured a study by environmental health expert **Carrie Breton** and colleagues, which found that maternal smoking during pregnancy has lifelong effects on the offspring, which may occur through specific changes in DNA patterns. Asian News International and The *Times of India* also covered the research.

An Aug. 31 *Los Angeles Times* article quoted pathologist Jane Emerson about over-the-counter health tests.

An Aug. 31 *Los Angeles Times* article noted that the USC School of Dentistry is among schools that

offer free or inexpensive dental checkups.

An Aug. 31 Medical News Today online article reported that researchers at the Keck School of Medicine have been awarded \$2.9 million in grants from the California Institute for Regenerative Medicine to support research into stem cell discoveries. The *Los Angeles Downtown News* and the Xinhua News Agency (China) also covered the grants.

An Aug. 29 *Orange County Register* article quoted psychiatrist **Jeffrey Sugar** about the woman who was recently discovered living with her kidnapper 18 years after she was taken.

On Aug. 27, ABC News interviewed fertility expert **Richard Paulson** about a new technique that has successfully prevented the inheritance of DNA mutations in monkeys.

On August 27, KPFK-FM featured public health expert **Michael Cousineau** in a panel discussion on healthcare reform.

An Aug. 26 *Los Angeles Times* article reported that the Southern California Environmental Health Sciences Center at USC provided support to Otana Jakpor, a teenager who researched the impact of ozone-producing air purifiers on lung function.

Calendar of Events

This Calendar of events is also online at www.usc.edu/hscalendar for the Health Sciences Campus community

Tuesday, Sept. 8

9 a.m. Neurology Grand Rounds. “Recent Advances in Diagnosis and Treatment of Vestibular Disorders,” Dennis O’Leary, USC. ZNI 112. Info: (323) 442-7686

11:30 a.m. Psychiatry Grand Rounds. “Working with What You Have: Treatment of an Adolescent Girl with Anorexia Nervosa in the Pediatric Inpatient Setting,” Kevin Guber, USC. ZNI 112. Info: (323) 442-4065

Wednesday, Sept. 9

Noon. ZNI Seminar. “Axonal-Glial Interactions in Myelinated Nerves,” James Salzer, New York Univ. ZNI 112. Info: (323) 442-2144

Noon. Renal Grand Rounds. “Immune Mechanism of Glomerular Disease,” Richard Glasscock, UCLA. GNH 4420. Info: (323) 226-7337

Friday, Sept. 11

11 a.m. Hematology Grand Rounds. “Cancer Related Thrombosis: Diagnosis and Management,” Howard Liebman, USC. IPT C2J103. Info: (323) 865-3950

Noon. Pharmacology and Pharmaceutical Sciences Seminar. “Transporter-mediated Drug Interactions: Prediction of Clinical Outcome from In Vitro Data,” Mitchell Taub, Boehringer-Ingelheim Pharmaceuticals Inc. PSC 104. Info: (323) 442-1902

Noon. “Updates of Pain Management and Specific Pain-related Issues in HIV Patients,” Ali Nemat, USC. GNH 6441. Info: (323) 226-7504

Tuesday, Sept. 15

11:30 a.m. Psychiatry Grand Rounds. “Neuropsychiatry on Death Row,” James Merikangas, Georgetown Univ. ZNI 112. Info: (323) 442-4065

Noon. Cancer Ctr. Grand Rounds. “Role of Endoplasmic Reticulum Stress Regulator GRP78/BiP in Development and Human Diseases,” Amy Lee, USC. NRT Aresty Aud. Info: (323) 865-0801

5 p.m. Global Health Lecture Series: Visions for Change. “Global Health: Back to the Future,” Al Sommer, Johns Hopkins Bloomberg School of Public

Health. NRT Aresty Aud. Info: (323) 865-0419

Wednesday, Sept. 16

Noon. Renal Grand Rounds. “Indications for and Interpretation of Radiological Tests of the Kidney and Urinary Tract,” Philip Ralls, USC. Info: (323) 226-7337

Thursday, Sept. 17

8 a.m. Urology Live Symposium. “Seeing...Believing...Doing: A Day at USC Urology,” Inderbir Gill, USC. UNH and NOR Operating Rooms. Info: (323) 865-3708

Noon. “To Stress or Not—New Insights into JNK Signaling,” Ze’ev Ronai, La Jolla, CA. HMR 100. Info: (323) 442-1283

Friday, Sept. 18

11 a.m. Hematology Grand Rounds. “Low-grade Follicular NHL,” Sikander Ailawadhi, USC. IPT C2J103. Info: (323) 865-3950

Saturday, Sept. 19

10 a.m. – 5 p.m. The 4th Annual Medical Student Leadership Conference. “Your Future in Medicine Awaits. Shouldn’t You Help Shape It?” Various speakers. KAM Mayer Auditorium. Info: www.emanet.org/student-leadership

Tuesday, Sept. 22

Noon. Cancer Ctr. Grand Rounds. “Young Adults and Cancer: When Two Worlds Collide,” Planet Cancer Roadshow and Stuart Siegel, USC/CHLA. Info: (323) 865-0801

Wednesday, Sept. 23

Noon. ZNI Seminar. “Paving the Axonal Highway: Molecular Control of CNS Myelination,” Q. Richard Lu, Univ. of Texas Southwestern Medical Ctr. ZNI 112. Info: (323) 442-2144

Noon. Renal Grand Rounds. “Renal Imaging: Cases,” Vinay Duddalwar, USC. GNH 4420. Info: (323) 226-7337

Thursday, Sept. 24

Noon. “Metabolism of Vitamin D and Bone Density,” Vicente Gilsanz, USC/CHLA. HMR 100. Info: (323) 442-1283



Jon Nalick



THANKS!—USC University Hospital hosted a barbecue (above) on Aug. 11 to thank hospital volunteers and their supervisors for all their work. Kai Tramiel, manager of the hospital’s volunteer services, said the event was intended “to express our gratitude for their time especially during the summer, when they could be doing other things, like having a job or taking the summer off.” Left, volunteer Daniel Castillo shows off the tickets he won for the Sept. 18 Dodgers-Giants game—the grand prize in a raffle at the event.



USC GOOD NEIGHBORS
C A M P A I G N

A Tradition of Giving!

Good Neighbors Campaign seeks leaders

By Jon Nalick

In preparation for the 2009 USC Good Neighbors Campaign, organizers are seeking one or two volunteers from each department on the Health Sciences Campus to serve as campaign leaders.

Carolina Castillo, executive director of planning and development in the office of Government and Community Relations, and Good Neighbors Campaign director, said department leaders are critical to the success of the campaign by communicating information and encouraging participation during the campaign month of October.

To participate, volunteers must attend a one-hour orientation meeting on Sept. 23. To sign up, contact Eva Blaauw at eblaauw@usc.edu or (323) 442-2830.

Since its inception in 1994, the Good Neighbors Campaign has awarded 365 grants, totaling \$9 million to fund partnerships between the university and the communities surrounding both campuses.

Every dollar of contributions designated to USC Neighborhood Outreach—the nonprofit grant-making organization funded by USC faculty and staff contributions to the Good Neighbors Campaign—is distributed to programs that benefit children and families living in the immediate neighborhoods around both campuses. The programs support science, health, literacy and math education, as well as sports, arts and safety.

Visit USC’s Good Neighbors Campaign Web site at <http://www.usc.edu/goodneighbors> for more information on the annual initiative.

In case of an emergency...

Call the Emergency Information Phone: 213-740-9233 The emergency telephone system can handle 1,400 simultaneous calls. It also has a backup system on the East Coast.

Visit the USC Web: <http://emergency.usc.edu> This page will be activated in case of an emergency. Backup Web servers on the East Coast will function if the USC servers are incapacitated.

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Notice: Deadline for calendar submission is 4 p.m. Monday to be considered for that week’s issue—although three weeks’ advance notice of events is recommended. Please note that timely submission does not guarantee an item will be printed. Send calendar items to HSC Weekly, KAM 400 or fax to (323) 442-2832, or e-mail to eblaauw@usc.edu. Entries must include day, date, time, title of talk, first and last name of speaker, affiliation of speaker, location, and a phone number for information.